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THE BRITISH JOURNAL OF DERMATOLOGY

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FEBRUARY, 1912.

TELANGIECTASES IN CHILDREN, IN ASSOCIATION WITH WASTING AND PROTRACTED DIARRHŒA.

By E. GREAVES FEARNSIDES, M.A., M.B., B.C.Cantab., B.Sc.Lond., M.R.C.P.Lond.,
Medical Registrar, London Hospital, E.

Telangiectases have frequently been described in the adult in association with grave wasting and asthenic conditions. A detailed account of this association may be found in the able article on telangiectasis which was communicated to this journal by Dr. Colcott Fox in 1908 (1). An extensive search through the literature, however, has failed to reveal any account of telangiectasis, erythema and purpura in children in association with wasting and protracted diarrhœa. The following six cases may, therefore, be of interest.

Case I, 903/1911, H.H.—Winifred R—, aged 10 years. The patient was admitted to the London Hospital under the care of Dr. Henry Head on April 3rd, 1911, and died on April 12th.

Family history.—The patient was an adopted only child. Her mother was alive and well. Of her father nothing was known.

Personal history.—The child was a fine, healthy baby at birth. She was bottle-fed and developed rickets. At the age of three years she had an attack of measles followed by bronchitis, and since that time she had never been strong. Since the age of five she had been subject to recurring febrile attacks, accompanied by diarrhœa and vomiting. For a year before admission the attacks had been so frequent that she had been almost continuously under the care of a doctor. One month before admission she seemed to be doing well, the bowels became more regular, and her weight increased. On

March 31st, however, four days before admission, "dropsy set in," and her general health failed.

On admission.—The patient was a pale, fair-haired child, with long eyelashes and blue sclerotics. She was small for her age and thinly covered. She weighed 2 st. 8 lb. Her eyelids were puffy; her abdomen was protuberant; her feet, ankles, legs, and the dorsal surfaces of her hands were swollen, and became pitted on pressure.

Skin.—On admission on April 3rd two types of skin-lesion were distinguishable:

(1) A bright red *erythema*, which disappeared entirely on pressure. This was found only on the hands and feet. The skin in the affected areas was more scaly than the skin elsewhere.

(2) Isolated patches of *telangiectasis*. These patches varied in size from that of a sixpence to that of a shilling. They were found scattered over the trunk, on both dorsal and ventral surfaces. They were slightly raised and somewhat scaly. Their centres were brick-red in colour, and contained spider-like, distended vessels. Their margins showed a red flush, which did not disappear completely on pressure.

During the next three days the telangiectatic patches spread widely over the trunk. At the same the erythema previously noted on the hands and feet faded, whilst œdema of the hands, feet, eyelids and vulva became a marked feature. The child at this time presented the bloated appearance seen in cases of chronic parenchymatous nephritis.

By April 6th the patches had altered greatly in appearance, and were replaced by diffuse, irregularly distributed areas of telangiectasis and a few discrete, raised plaques.

The diffuse areas of telangiectasis were in general of a bright red colour, but where most marked had a purplish hue. They had a punctate appearance due to groups of dilated capillaries, and were covered by desquamating, refractile epithelium. They were just palpable, and did not disappear completely on pressure. They were found chiefly on the trunk, on the dorsal surface to a greater extent than on the ventral, on the back of the hands, on the front of the knees, and on the dorsal surface of the feet. They were most marked over areas subject to pressure, and were especially noticeable over the sacrum.

During the last two days of life these areas of telangiectasis spread even more widely. On the morning of the 11th they had involved the whole of the dorsal aspect of the trunk, so that this appeared to be covered by a wide-spread nævus.

The plaques were readily palpable. Their size varied from that of a sixpence to that of a half-crown. They had pale centres and flushed erythematous margins. Their periphery was occupied by distended capillaries, and across their paler centres coursed a few larger distended vessels. They were found only on the dorsal aspect of the trunk, chiefly around the scapulæ. They were placed bilaterally and almost symmetrically. Eight were counted on the 6th, twelve on the 7th; before death the number had increased to twenty.

On April 6th and onwards till death, peeling on the portions of the extremities from which the early erythema had faded became noticeable; it was seen chiefly between the clefts of the fingers and toes. The skin in general showed much vasomotor reaction to local stimuli, and the phenomenon of dermatographia could be elicited everywhere.

The tongue was red, raw, and denuded of epithelium. Its appearance suggested the "stage of cleaning" in a case of scarlet fever. The throat was reddened. The tonsils were not enlarged. The pharynx was a little granular, and muco-pus was seen descending from the naso-pharynx. The chest was only thinly covered. The respiratory movements were small. The percussion note at the left base was not so good as the note at the right. The breath-sounds at both bases were weak, and occasional rhonchi were audible everywhere. The apex-beat of the heart was felt in the fifth space just internal to the nipple line. The first cardiac sound was feeble at the apex, and slightly louder at the base. The second sound was normal. The abdomen was distended, and showed eversion of the umbilicus and prominence of the superficial veins. The recti stood out prominently. There was considerable ascites. The flanks were dull, and the sign of shifting dulness could be obtained. The liver and spleen could not be felt, and were found to be not enlarged on percussion. No lumps could be felt in the abdomen. There was no evidence of any glandular enlargement. The urine was tested daily. The amount varied from 5 to 27 oz., and averaged 18 oz. The specific gravity varied from 1008 to 1010. The colour was dark

amber. On standing it yielded no deposit. Albumen and sugar were not present. The rate of the pulse varied from 108 to 116 per minute. The volume and tension were good. The wall of the vessel could not be felt. The rate of respiration varied from 24 to 32 per minute. The temperature was subnormal until three days before death; it then rose to 101° F. each evening, and fell to subnormal each morning. Immediately before death it attained the height of 103·4° F. There was no vomiting. The stools were large, loose, liquid and offensive, and contained clots of undigested milk. Two or three such ill-formed motions were passed daily. On April 10th an examination of the blood was made, and showed—Red corpuscles, 4,600,000 per c. mm.; white corpuscles, 5000 per c. mm. With a differential count polynuclear neutrophils, 80·5 per cent.; small lymphocytes, 9·5 per cent.; large lymphocytes, 9·5 per cent.; large hyaline cells, 0·5 per cent.

Death occurred at 11.30 p.m. on April 11th.

I am indebted to Dr. Turnbull, Director of the Pathological Institute, for the following report on the condition found at the necropsy thirteen hours after death:

Summary of Necropsy. No. 330. 1911, April 12th.

Marasmus. Anæmia. Tuberculous peritonitis with ascites. Tuberculous ulceration of lower ileum and cæcum. A few miliary tubercles in the peritoneum. Fibrous peritoneal adhesions over the ulcerated portion of the intestine. Caseous areas in the enlarged lymphatic glands of the ileo-colic portion of the mesentery. Softened caseous tuberculous nodule in the posterior part of the upper lobe of the left lung, immediately below the apex. Small group of granulomatous, miliary tubercles beneath the visceral pleura on the outer surface of the upper lobe of the right lung. Extreme fatty infiltration of liver (2 *lb.* 0½ *oz.*). *Reticular and ring areas of telangiectasis with scaly epidermis in the skin on the posterior surface of the trunk, shoulders and left wrist. Œdema of legs and feet. Brown atrophy of heart* (2 *oz.*). *Œdema of myocardium. Atrophic glossitis. Concretions in tonsillar crypts. Œdema and slight parenchymatous degeneration of kidneys* (3 *oz.*). *Slight hydrocephalus and hydrorrhachis. Small suprarenals. Atrophic thymus* (2 *grm.*). *Mastoid antrum and middle ears clean. Spleen* 1½ *oz. Brain,* 2 *lb.* 10½ *oz. Length of body* 4 *feet. Weight* 2 *st.* 8 *lb.*

Peritoneum and intestines.—On opening the abdomen the intestines were found to be distended and there was about a pint and a half of free fluid in the peritoneal cavity. The fluid was of yellowish colour and cloudy. It contained a few flakes of lymph. The serous surface of the lower two feet of the ileum showed areas of injection with lymph upon their surface. There were also on the serosa a few small white nodules of the size of a pin's head. The lower nine inches were coiled, and the coils were bound together by fibrous adhesions. The serous surface of the cæcum also showed injection, fibrous adhesions and a few subserous nodules. These changes were less marked on the cæcum than on the lower ileum. The rest of the peritoneum was smooth and glistening.

The small intestine contained gas and yellow fluid. In the ileum two feet above the ileo-cæcal valve there was an ulcer, which was about half an inch wide and extended completely around the lumen. The borders of the ulcer were slightly undermined. They contained a few soft, white, miliary nodules. The base was formed by muscularis. Its surface was rough and showed several small, round, miliary nodules. The serosa over the ulcer was injected and on it there were a few tags of fibrin. In the terminal foot of the ileum there were four broad, transverse ulcerations, which were similar in appearance save that their borders were sinuous. The mucosa was reduced to three transverse bands about half an inch wide. The ulceration involved the cæcum for about half an inch. On the serous surface of these ulcers there were fibrous adhesions and a few, raised, miliary nodules.

Mesenteric glands.—The glands in the angle between the ileum and the colon were enlarged up to three quarters of an inch in length. On section the enlarged glands showed opaque, yellow, cheesy areas.

Lungs.—The left lung was of uniform colour. The pleura was smooth and glistening. Crepitation could be elicited throughout. A small nodule was felt in the posterior part of the apex of the upper lobe. On section this nodule was found to be two fifths of an inch in diameter. It lay one eighth of an inch below the pleura. Its centre was soft and yellowish. In its periphery was a zone of injection. The rest of the cut surface of the lung was aërated and pink.

The base of the right lung was darker in colour and its cut surface was somewhat congested On the outer surface of the upper lobe a small nodule was felt. On section this was found to consist of four miliary tubercles of slate-grey colour, which lay immediately beneath the pleura.

The liver was large and of pale clay colour. The capsule was smooth and thin. The liver floated in water. On section the cut surface bulged considerably. It was dry and of clay colour. The periphery of the lobules were lighter in colour than the centres. The liver was boggy in consistence and friable on moderate pressure.

Microscopic Examination.

(1) *Ulcer in ileum.*—The border of the ulcer is slightly undermined, the mucosa falling towards the base. The submucosa is thickened at the border, The base is formed by the inner or outer layers of the muscularis or by the serosa. The submucosa, muscularis and serosa are greatly infiltrated by lymphocytes. They also show some proliferation of spindle fibroblasts. There are two rounded nodules in one border of the ulcer, one in the thickened

submucosa, the other in the inner layer of the mucularis. These nodules contain necrosed epithelioid cells. One contains in addition necrosed, polymorphonuclear, neutrophile leucocytes. No tubercle bacilli were found in sections stained by the Ziehl-Neelsen method.

(2) *Nodule in left lung.*—The nodule is formed centrally by necrosed tissue; externally there is a hæmorrhagic zone. The necrosed tissue is partly hæmatoxophile, partly eosinophile. In it pyknotic nuclear fragments, swollen rounded cells with pale nuclei, and a few polymorphonuclear leucocytes can be recognised. The appearances are those of caseation rather than abscess-formation. At the edge of the necrosis there is in places a slight proliferation of spindle fibroblasts. There are also one or two giant-cells of Langhan's type. In the peripheral, hæmorrhagic zone the alveoli are filled by red corpuscles and in some cases by swollen fibrin. No tubercle bacilli were found in sections stained by the method of Ziehl-Neelsen.

(3) *Liver.*—All the cells in the lobules are transformed into "signet rings" enclosing fat. There is no visible degeneration in the nuclei. There are no necrosed cells. There is no abnormality in the portal systems.

(4) *Kidney.*—In sections stained by Sudan no fat is present. In paraffin sections there is evidence of slight parenchymatous degeneration of the first convoluted tubules. The epithelial cells are swollen and have an ill-defined inner border, whilst their protoplasm is granular or finely vacuolated. There is a little granular *débris* in some of the lumina of these tubules.

(5) *Skin.*—(*a*) A portion taken from a large scaly, telangiectatic area (Fig. 1).

The capillaries in the papillary zone of the dermis are distended by red blood-corpuscles and there is occasionally some extra-capillary extravasation. The capillaries of the sweat-glands and of the subcutaneous lipomatous tissue are also engorged. The dermis is œdematous, the collagen fibres being swollen, and less sharply defined and less deeply stained than normally. There is no cellular infiltration. The epidermis is, as a rule, thin, and has only a narrow horny layer. In places there is a thicker mass of horny cells upon the surface. The nuclei in these horny cells are clearly seen.

(*b*) A portion including a telangiectatic ring surrounding a pale centre.

In this section the dilatation of the capillaries affects a localised area. There is marked œdema of the dermis. The œdema extends beyond the area of vascular dilatation.

Case 2, 2456/1911, O.G.—Dorothy M—, aged 7 years. The patient was admitted to the London Hospital under the care of Dr. Otto Grünbaum on September 4th, 1911. She was discharged on September 17th to "out-patients," where she is still attending (December 21st, 1911).

Family history.—She was the eldest of three children. Her brother and sister were alive and well. Her father and mother were alive and well, except that her father was subject to "rheumatism." One paternal uncle died from "consumption," and another has a chronic cough.

PLATE I.

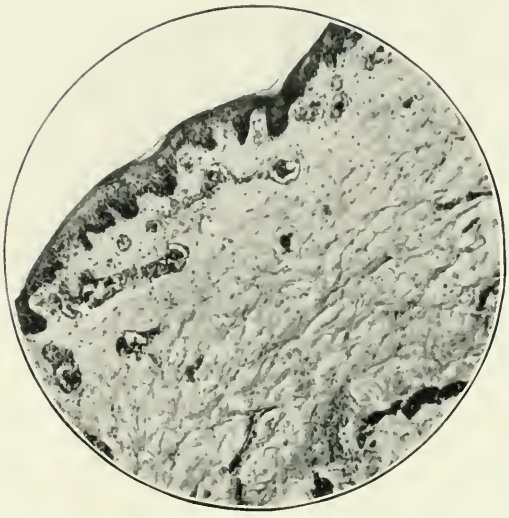

Fig. 1.—Section from raised telangiectatic area in skin, from Case 1.

Fig. 2, Case 4.—Showing telangiectases and mottling.

To illustrate Dr. Fearnsides' Article on Telangiectasis.

Personal history.—The patient had an attack of measles followed by whooping-cough in babyhood, and chickenpox at the age of three years. Her present illness started in March, 1911, six months before admission to hospital. The first signs of illness were that she "went off her food and became run down." At a later date a rash appeared over the legs and the lower part of the trunk. She attended for some six or eight months as an out-patient at one of the East-End Medical Missions and improved greatly in general health, but the rash never entirely disappeared. Towards the end of April she became subject to recurring attacks of diarrhœa and vomiting. In these attacks she was feverish, and refused food. During August and the first half of September the diarrhœa had been almost continuous. About four weeks before admission "the abdomen began to swell." Three days before admission puffiness of the feet and face were first noticed.

On admission.—The patient was a red-haired child with long eyelashes and bright eyes. She had puffy eyelids and was of a pale, bloated appearance. She was small for her age and weighed 3 st. 7 lb.; on the disappearance of the œdema and ascites her weight fell to 3 st. $\frac{1}{4}$ lb.

Skin.—Her skin was universally harsh, stretched, scaly, and of a brownish-yellow tint. Scattered over the trunk, more especially over the back and over the front of the thighs, were patches of irregular size and shape, the largest being 2 in. in diameter. These had a broad peripheral zone of general redness and small reticular groups of dilated superficial vessels in their centres; occasionally larger superficial vessels radiated from the central groups. The patches were slightly raised, the margins being distinctly palpable. The patches were more scaly than the rest of the skin. There was definite œdema of eyelids, sacral region, legs, feet and of the backs of the hands, these parts pitting readily on pressure. The skin over the œdematous parts was tense and shiny, and was covered by refractile flakes of desquamating epithelium.

The tongue was clean. Its papillæ were conspicuous. The throat was clear. The tonsils were large. The thyroid gland could not be felt. The chest was fairly well covered. The respiratory movements were small. No abnormal dulness was detected over the lungs, and the breath-sounds had a normal character. The apex-beat of the heart was palpable just internal to the middle line. The cardiac

sounds were clear. The abdomen was distended and the umbilicus everted. There was a marked degree of dulness in the flanks, which shifted through a considerable range on turning the patient. A fluid thrill could be readily elicited. The abdomen was tapped on September 7th, and 70 oz. of clear fluid were obtained. This fluid contained an excess of endothelial cells but only a few lymphocytes. After paracentesis the whole abdomen had a doughy feel; the liver and spleen could not be felt and no abnormal lumps could be palpated. The child was constipated. Her appetite was large. She did not vomit. The rate of the pulse varied from 90 to 100 per minute. The rate of respiration varied from 26 to 28 per minute. The temperature was slightly irregular, being constantly subnormal in the morning and rising to 99·4° F. in the evening. The urine was examined daily. The quantity varied from 8 to 44 oz., the specific gravity from 1016 to 1022. Albumen and sugar were never present. Von Pirquet's tuberculin test gave a strongly positive reaction, and injections of tuberculin a characteristic pyrexial rise.

Whilst in-patient she was treated with rest, extra feeding, cod-liver oil and injections of tuberculin. Under this treatment she gained 5 lb. in weight. The œdema and ascites subsided and the skin assumed more normal characters. On discharge, however, to "out-patients" on September 17th, the reticular groups of capillaries and the distended vessels radiating therefrom were still visible. The skin at this time was extremely dry and scaly, but the œdema present on admission had entirely disappeared.

Since discharge she has attended as an out-patient for treatment with cod-liver oil and injections of tuberculin. When last seen on December 21st she had gained $2\frac{3}{4}$ lb. in weight. Her skin was still dry and scaly. There was no œdema, but there was still a considerable quantity of free fluid in the abdomen. The telangiectases were represented by a few scattered groups of dilated vessels on the dorsal surface of the trunk and front of the thighs. These groups of vessels were no longer conspicuous, and in the absence of the previous history might have escaped attention. She had several small pustules on her face and back.

Case 3.—2395/1911, B.D.—Richard W—, aged 3 years. The patient was admitted to the London Hospital under the care of Sir

Bertrand Dawson on October 6th, 1911, and discharged on October 23rd.

Family history.—The patient was the second of three children, but the only one living. His elder brother died at the age of eighteen months of broncho-pneumonia, and his younger sister of "epidemic diarrhœa and vomiting." His father and mother were still alive and enjoyed the best of health. There was no family history of tuberculosis.

Personal history.—The child was a fine baby at birth. He was fed on the breast for sixteen months. Until twelve weeks before admission he had never had any illness whatsoever. He then had an attack of diarrhœa and vomiting which lasted eight weeks. After this he was fairly well with the exception of a certain looseness of the bowels until fourteen days before admission. His face and legs then began to swell, "but he did not seem ill in himself." Two days before admission a red rash appeared over the trunk, he "began to break out" on the face, and was feverish and thirsty.

On admission.—The child was a well-developed, somewhat wasted boy. He weighed 2 st. 6 lb. He was pale and showed marked œdema of the eyelids, face, hands and legs, and gross œdema of the feet and of the dorsal aspect of the trunk.

Skin.—The skin presented two types of lesion :

(1) Discrete patches of ordinary *impetigo*. These patches were found chiefly on the distal parts of the limbs and on the face; two patches only were seen on the skin of the trunk.

(2) Irregular *telangiectatic* areas on the trunk, chiefly on the dorsal aspect on the front of the thighs, and, to a less marked degree, on the back of the calves. These areas varied in size from that of a sixpence to that of a crown. They were slightly raised and bright red or purplish in colour, showing in their centres more vivid scarlet points, which consisted of a net of distended capillaries. From this net larger distended vessels frequently radiated in spider-like fashion. These areas did not disappear on pressure. The skin at the periphery of the areas was slightly erythematous and of a sodden appearance. The skin elsewhere showed dermatographia readily.

The tongue was clean. The pharynx appeared healthy. The tonsils showed deep crypts which were free from secretion. The chest moved well on respiration. There was no impairment of the

percussion note anywhere over the lungs. The apex-beat of the heart could be felt in the fourth space just internal to the nipple line. The cardiac sounds were clear. The abdomen was somewhat distended. Shifting dulness could be obtained. The liver and spleen could not be felt and on percussion were not found to be enlarged. No abnormal lumps were felt in the abdomen. There was no evidence of any glandular enlargement. The child passed two or three large liquid, extremely offensive stools each day. The quantity of urine passed daily varied from 8 to 12 oz. The specific gravity varied from 1012 to 1017. The reaction was alkaline or neutral. The colour was dark, and a deposit of phosphates was noted on several occasions. The daily examination of the urine failed to reveal the presence of either albumen, sugar, blood or casts. The rate of the pulse varied from 112 to 120 per minute. The rate of respiration varied from 24 to 32 per minute. The temperature was subnormal in the mornings and rose in the evenings to 99° or 100° F. On two occasions it reached 103° F. The reaction to von Pirquet's tuberculin test was somewhat greater than normal but could not be described as positive.

The child as an in-patient was treated with hot packs and extra feeding. The œdema entirely disappeared, the impetigo cleared, and the ascites diminished. On discharge the telangiectatic rash had almost entirely disappeared, being represented merely by occasional groups of dilated capillaries such as are frequently seen on the malar area.

Since discharge the diarrhœa has continued, but neither the œdema nor the rash have reappeared. When last seen, on December 8th, the condition of the child was fairly satisfactory. He weighed 2 st. 13½ lb. The groups of dilated capillaries present on discharge were scarcely visible; on close examination, however, a few groups could be distinguished on the front of the thighs, over the buttocks, and in the interscapular region. Impetigo of the face was again present. No free fluid could be detected in the abdomen.

Case 4, 3327/1911, P.K.—Rose S—, aged 5 years. The patient was admitted to the London Hospital under the care of Dr. Percy Kidd on November 29th, 1911, and is still an in-patient (January 1st, 1912).

Family history.—The patient was the seventh of nine children,

seven of whom survive and enjoy the best of health. Her youngest brother died on November 30th, 1911, at the age of three months, from chronic diarrhœa. Her father was alive and well; her mother was subject to attacks of acute rheumatism and suffered from valvular disease of the heart. Several members of her mother's family had had acute rheumatism and suffered from heart disease. There was no family history of tuberculosis.

Personal history.—The child was a fine baby at birth. She was bottle fed, "and soon fell away." When ten months old she had an attack of summer diarrhœa and vomiting. At the age of one year she had a mild attack of measles. At the age of two and a half years she caught whooping-cough, and was ailing for four months. In September, 1910, she had another severe attack of diarrhœa and vomiting, and was very ill. About the middle of October, 1910, the diarrhœa abated and the patient improved somewhat, but her weight did not increase. In June, 1911, the diarrhœa returned, and for some ten or fourteen days she passed six or seven foul, liquid, light-coloured stools daily. During the latter half of June and the whole of July she seemed to be doing well; her weight increased and she became more active. On August 18th, 1911, however, the diarrhœa returned and persisted till her admission. Her stools, which usually numbered four or five each day, were never formed; they were always liquid and extremely offensive. She steadily lost weight. Her appetite was small. She was very thirsty and refused all solid food. On November 15th she became dull and drowsy and "ill in herself." On the 20th œdema of her foot was first noticed. In the course of the next three days the swelling spread up her legs and also affected her eyelids. On the 27th an erythema appeared over her fingers. This lasted one day. On the 29th a similar erythema appeared over her toes. On the 24th a rash appeared over the region of both trochanters, over the right to a greater extent than over the left, and persisted until admission.

On admission.—The patient was an extremely pale, fair-haired child. She was small for her age and greatly wasted. She weighed 1 st. 6 lb. 12 oz. Her eyelids were puffy; her hair was matted, thin, and scanty. Around her mouth were scabs and sordes; the edges of her eyelids were thickened and red; blepharitis and coryza were marked features; her abdomen was retracted; her feet, ankles, legs,

hands and forearms were swollen, and became pitted on pressure. Her general appearance suggested a wasted child with chronic parenchymatous nephritis.

Skin.—On admission, on November 29th, five types of skin-lesion were distinguishable:

(1) A bright red *erythema*, which entirely disappeared on pressure. This was found only on the hands and feet, chiefly over the digits. This erythema only lasted thirty-six hours.

(2) A number of dark-red, petechial, *purpuric* points of the size of a pinhead. These were seen only on the front of the shins and around the knees.

(3) Isolated papules about the size of a small pinhead and of the colour of the surrounding skin.

(4) Irregular, reticular patches of a yellow-red colour. These were not raised. They did not entirely disappear on pressure. They were present over both trochanters, on the right side occupying an area 4 in. by 2 in., on the left an area 2 in. by 1½ in. The area occupied by this reticular rash was surrounded by completely normal skin.

(5) A scaly *seborrhœa* which was of the usual type of Seborrhœa capitis and descended onto the interscapular region.

The tongue was red and moist. The throat was filled with thin mucus. The tonsils were not enlarged. The chest was only thinly covered. The respiratory movements were normal. Occasional rhonchi could be heard everywhere over the lungs. There was no abnormal dulness on percussion. The apex-beat of the heart was felt in the fourth space just internal to the midclavicular line. The cardiac sounds were clear. The abdomen was retracted. The flanks were resonant. The liver and spleen could not be felt. There was no evidence of glandular enlargement. The urine was tested daily. The quantity varied from 8 oz. to 20 oz. The specific gravity varied from 1015 to 1020. The colour was pale. On standing a deposit of phosphates occurred. Albumen and sugar were never present. Vaginitis was present, and was due to a short-chained streptococcus.

The rate of the pulse varied from 118 to 130 per minute. The volume and tension were fair. The rate of respiration varied from 26 to 32 per minute. The temperature was irregular, varying from 97° F. in the morning to 99 or 100° F. in the evening. An examina-

PLATE II.

FIG. 3, CASE 4.—General appearance of patient.

tion of the blood made on December 2nd gave—red corpuscles 3,700,000 per c.mm.; white corpuscles 5400 per c.mm.; stained films normal. Cultures taken from the stools grew no organisms of the dysenteric group. *Bacillus coli* (two strains), *Bacillus proteus*, and *Bacillus fluorescens* were the only bacteria isolated on culture.

Progress.—As soon as the child was put to bed, the erythema present on admission rapidly disappeared. For the first fortnight after admission, however, an erythema returned on the hands and feet, whenever the child was allowed to rest with its limbs at a level below that of the trunk. Under the action of gravity the vessels of the distal portions of the extremities could be watched dilating. The toes and fingers, and later the dorsal surfaces of the feet and hands, would assume first a general pink flush, and then with the continuation of the dependent posture, a purplish, cyanotic hue although the limb remained warm. With a further continuation of the posture the vascular disturbance could be seen extending up the limbs, and the entire lower limb could be made at will to assume a mottled appearance (*vide* Figs. 2 and 3). This appearance was never seen whilst the child remained in the recumbent posture. In the course of half an hour after the replacement of the limb in a horizontal position the capillary dilatation would disappear completely.

After admission the œdema of the face, hands and feet gradually diminished in quantity. Twelve days after admission it had disappeared entirely; but, as with the erythema, a dependent posture of the legs would cause its re-appearance there. Under the influence of posture the œdema followed the development of the erythema and cyanotic mottling at a considerable interval.

A comparison of the two photographs (Plate I, fig. 2, and Plate II, fig. 3), which were taken at an interval of ten minutes, will show the amount of erythema and œdema which developed in this time owing to change in posture. In Fig. 2 the œdema and vascular dilatation of the legs are considerably greater than in Fig. 3.

The telangiectases over the trochanters, which had been first noticed by the child's mother five days before admission, persisted for over three weeks. They faded gradually and left a stain in the skin extending beyond the vessels which had been dilated. As they faded the skin became raised, scaly, and showed refractile flakes.

No fresh telangiectases developed whilst the child was under observation.

The petechial purpuric spots faded gradually through brown and yellow stages. They had entirely disappeared on the sixth day following admission.

The child throughout was exceedingly hungry. At first she was very irritable. As the œdema disappeared her general condition improved; the diarrhœa, however, became more troublesome and more frequent. The stools on some days numbered as many as sixteen in the twenty-four hours and always contained much undigested matter. On December 2nd her weight was 1 st. 6 lb. 12 oz., on the 11th 1 st. 4 lb. 6 oz., on the 27th 1 st. 7 lb. 4 oz. Throughout the month of December diarrhœa was a very marked feature of this case, and no formed stool was ever passed by the patient. When last seen on January 1st the child showed absolutely no trace of any of the skin disturbances. She ate well, slept well, and had completely lost the anæmic and cachectic appearance present on admission.

Case 5, 3369/1911, O.G.—Margaret S—, aged 17 months. The patient was admitted to the London Hospital under the care of Dr. Otto Grünbaum on December 3rd, 1911, and discharged on December 31st.

Family history.—The patient was the third of three children. Her sister, aged 5 years, was alive and well. Her brother, who would have been three years old, died from hæmorrhage from the umbilical cord at birth. Her father and mother were alive and well. There was no family history of tuberculosis.

Personal history.—The patient was at birth a fine baby, and weighed 10¾ lb. She was breast fed for twelve months. At the age of fourteen months she caught the epidemic of diarrhœa and vomiting. For two or three days at the onset of her illness she was very ill and her life was despaired of; she vomited frequently and passed green, slimy, offensive liquid stools almost hourly. After four or five days her condition improved somewhat, the diarrhœa became less violent, the vomiting ceased. From this time until the date of her admission she passed from four to six foul, liquid stools daily. Eight weeks before admission she "caught a cold and developed a cough." Her case was diagnosed as one of bronchitis. She was kept in bed and after four days seemed quite well. Three days later, however, she

had an attack of thrush, her mouth, tongue and pharynx became ulcerated. She then attended as an out-patient. Under treatment her mouth became clean and the thrush disappeared. In the course of the next week she gained 2 oz. in weight, though the diarrhœa in spite of treatment remained unchecked. In the course of the following week she lost 7 oz. in weight, the diarrhœa became more troublesome, and she "went off her food." She continued to attend as an out-patient until her admission to hospital. Ten days before admission her legs were noticed for the first time to be swollen. Eight days before admission she again "caught a cold," became feverish, and developed a cough. Two days before admission the swelling of her legs increased and it was for this that she was admitted to hospital.

On admission.—The patient was a pale, fair-haired, wasted child, weighing 1 st. 3 lb. 12 oz. Her orbits were sunken, her eyelashes long. Her abdomen was retracted. The backs of her hands and of her feet were puffy and became pitted on pressure. Œdema was not present elsewhere.

Skin.—Her skin generally was inelastic and wrinkled. Over the œdematous distal portions of the extremities, however, the skin was shiny and stretched. Below the knees, on the front of both legs and the dorsal surfaces of the feet a number of patches of reddened erythematous skin were seen. These patches varied in size from a split-pea to a threepenny-piece. The patches were more scaly than the rest of the skin of the body. The erythema disappeared entirely on pressure.

Her tongue was clean. Her throat was clear. Her chest moved well on respiration. The apex-beat of the heart could be felt just internal to the nipple line in the fourth space. The cardiac sounds were clear. There was no abnormal dulness over the chest. Towards the bases of both lungs, more especially that of the left, rhonchi were heard. No abnormal lumps could be felt through the flaccid abdominal wall. The liver and spleen were not palpable. There was no evidence of glandular enlargement. The rate of the pulse varied from 100 to 120 per minute. The rate of respiration varied from 30 to 32 per minute. The temperature was subnormal, 97° F. The urine was acid and contained neither albumen nor sugar. It yielded no deposit on standing.

The stools were green, ill-formed, liquid and offensive and contained undigested clots of milk. On an average four such offensive motions were passed daily. The appetite was large.

Progress.—Under feeding and hospital *régime* the œdema of the hands and feet rapidly disappeared. In three days the œdema had disappeared and the erythema had completely faded. The stools, however, continued to be ill-formed, undigested and offensive. Whilst in-patient the child rapidly improved, put on flesh and became less irritable. Her weight on December 8th was 1 st. 4 lb. 14 oz.; on the 11th, with the disappearance of the œdema, it had fallen to 1 st. 3 lb. 3 oz. On December 27th she weighed 1 st. 4 lb. 8 oz., her general condition was good, and her stools, though still loose, were normal in colour and almost formed.

Case 6, 2981/1911, B.D.—Dorothy T—, aged 9 years. The patient was admitted to the London Hospital under the care of Sir Bertrand Dawson on October 25th, 1911, and died on December 2nd.

Family history.—The patient was the sixth of nine children. All her brothers and sisters were alive. Her father and mother were alive and well. There was no family history of tuberculosis.

Personal history.—Except for a mild attack of measles at the age of three years, the child had enjoyed the best of health until August, 1911. On the 11th of that month she first complained of headache. Two days later diarrhœa and fever started. During the next six days her temperature never fell below 100° F., and as the diarrhœa continued, with some associated abdominal discomfort, she was admitted to the Barking Isolation Hospital on August 25th with a provisional diagnosis of "enteric fever." Her spleen was never palpable, no rose-spots were ever seen, but on August 31st her serum, when diluted 1 in 100, gave a Widal reaction with cultures of *Bacillus typhosus* positive in ten minutes. Whilst an in-patient in the Fever Hospital the diarrhœa continued, and for five weeks her temperature chart showed continued pyrexia varying from 99° to 100° F. each morning to 101° or 102° F. each evening. Emaciation soon became a marked feature. No formed motion was passed during the two months in which the child was in hospital. On October 25th, ten weeks after the onset of illness, the patient was transferred to the London Hospital.

The patient was the first case in the Barking district diagnosed as "enteric fever," but many subsequent cases developed, and her eldest sister, aged 19 years, and a brother, aged 11 years, were admitted subsequently to the same fever hospital, and in them the disease ran a normal course.

On admission.—The patient was an extremely wasted, pale, fair-haired child. She weighed 1 st. 8 lb. 10 oz. Her orbits were sunken. Her abdomen was retracted. All her bones showed prominently through her inelastic skin. There was no œdema, and except for some redness over pressure areas, more especially over the scapulæ and sacral region, the skin appeared normal.

Her tongue was red and raw; her pharynx unaffected. The chest was very thinly covered. The respiratory movements were small. The breath-sounds were normal. Occasional rhonchi and fine crepitations were audible all over the lungs. The heart was not enlarged. The cardiac sounds were natural. The abdomen was sunken. The liver and spleen could not be felt. The stools, which numbered from four to fifteen daily, were never formed; they were foul, liquid and offensive, and frequently contained bright red, unaltered blood. There was no glandular enlargement. The urine contained neither albumen nor blood. Six days after admission incontinence of urine and fæces set in and continued till death. The rate of the pulse varied from 130 to 150 per minute, the rate of respiration from 28 to 36 per minute. The temperature was irregular, and varied from subnormal or 99° F. in the morning to 99·5° or 102° in the evening. Widal's test on November 16th was negative in all dilutions to cultures of *Bacillus typhosus*.

On November 16th, fourteen days before death, œdema of the right foot was first noticed, followed two days later by the appearance of an erythema on the dorsal surface of the right foot and front of the right shin.

On November 22nd a fine, reticular telangiectasis appeared on the dorsal surface of the right foot and later spread over the lower part of the right leg. The telangiectasis was surrounded by an erythema which completely disappeared on pressure.

On November 28th erythema was first noticed on the lower part of the left leg and dorsum of the left foot, although no œdema was present over these regions. On November 29th this erythema had

spread, and definite vessels which did not disappear on pressure were now seen intermingled with the erythema present on the previous day. On the same day a large mass of dilated vessels appeared over the right knee and persisted until death, and at the same time a few isolated purpuric spots became visible over the front of the chest. Before death extravasations of blood occurred around the mass of vessels over the front of the knee, leaving the originally distended vessels still visible amid the purpura.

Death occurred at 9.30 p.m. on December 2nd.

I am indebted to Dr. Turnbull for the following notes on the post-mortem examination.

Summary of Necropsy. No. 1212. 1911, *December 5th.*

Acute endocarditis. Extreme wasting. Chronic ulcerative colitis and proctitis. Ulceration of termination of ileum. Hæmorrhagic infarct, covered by fibrinous pleurisy, in the upper lobe of the left lung. Soft, grey, striated thrombus in the bifurcation of the right common iliac vein. Red thrombus in the distal portions of the right internal and external iliac and femoral veins. Microscopic areas of broncho-pneumonia in distended lungs. Œdema of right foot and leg. Erythema with fine telangiectasis on the lower part of both legs and the dorsal surfaces of both feet. Small areas of coarse telangiectasis on the right knee. Numerous punctiform telangiectases on the anterior surface of the chest. Bed-sore over sacrum and left great trochanter. Œdema, congestion, and slight parenchymatous degeneration of kidneys (2½ *oz.*). *General atrophy of lymphatic tissue. Brown atrophy and œdema of heart* (1½ *oz.*). *Foramen ovale closed. Granular fibrinous vegetations on the contact margin of the posterior flap of the mitral valve. Liver* (12½ *oz.*). *Spleen* (¾ *oz.*). *Length of body* 3 *ft.* 9 *in. Weight* 1 *st.* 7 *lb.* 12 *oz. Examination of cranial cavity not permitted.*

The abdomen was markedly scaphoid and showed greenish discoloration. The *peritoneal cavity* contained 1 drm. of clear fluid. The peritoneum was smooth and glistening. There were no adhesions. On opening the intestines the patches of Peyer were found to be flat and depressed below the level of the surrounding mucosa. In the *ileum*, three inches above the ileo-cæcal junction, there were two small, shallow ulcers with shelving margins and smooth base. In the *cæcum* there was a group of ulcers with sharply cut margins. The margins were greatly undermined. The *appendix* was patent to its extremity. Its mucosa was not ulcerated. In the *ascending, transverse, and descending colon* there was an extensive reticular ulceration enclosing irregular islands of swollen, injected mucosa. The ulcerated

areas were smooth, of a slate-grey colour, and somewhat scarred in appearance. In the *sigmoid colon* the ulcers were discrete and shallow. The margins in almost all gradually shelved towards the base. In a very few the margins were undermined. In the *rectum* there was a group of four ulcers, the largest of which was the size of a sixpenny-bit. Their bases were smooth; their margins were swollen, rounded, and greatly undermined. A probe could be passed beneath the mucosa from ulcer to ulcer. The mucosa of the rectum was injected. The *colic glands* were of the size of millet-seeds. The cut surface was smooth, flat, and grey. The mesentery was free from fat. The *mesenteric glands* were very small. The *gall-bladder* contained amber bile. Its mucosa was of normal appearance.

Microscopic Examination.

(1) *Section from reticular ulcers in colon.*—The section includes two ulcers and two islands of mucosa. The base of the ulcers lies a short distance beneath the level of the muscularis mucosæ. The mucosa ends abruptly at the margins of the ulcers. The margin of one of the ulcers is slightly undermined, the ulceration extending for a short distance beneath the muscularis mucosæ of the adjacent mucosa. The base of the ulcers is formed by a narrow zone of spindle-celled granulation-tissue, in which there are lymphocytes, plasma-cells, neutrophile leucocytes, and a few large mononclear cells. There is a little necrosis in this zone. A considerable infiltration by lymphocytes and plasma-cells extends throughout the submucosa beneath the ulcers. This infiltration is chiefly perivascular. The bundles of the subjacent muscularis are separated by œdema. There are a few lymphocytes round the vessels in the subserosa.

In the islands of mucosa the glandular tubules are filled by mucus. Many of the tubules are distended by mucus so as to form cysts. In the mucus within some of the tubules there are neutrophile leucocytes. The stroma of the mucosa is relatively scanty. It contains a few plasma-cells and eosinophile leucocytes. The submucosa is markedly swollen by œdema for a considerable distance from the margins of the ulcers. It shows a moderate infiltration by lymphocytes and plasma-cells for a short distance beyond the margins of the ulcers. The muscularis is œdematous.

Sections stained by the methods of Twort and Weigert Gram show that there are considerable numbers of small Gram-positive diplococci and a few large Gram-positive cocci and bacilli in the superficial zone in the base of the ulcers. There are no acid-fast bacilli.

(2) *Section through an undermined ulcer in the cæcum.*—The ulcer is considerably undermined at one of the two margins which are included in the section. Above the centre of the ulcer there is a transverse section of an overhanging portion of mucosa, derived from one of the margins which are not included in the section. The mucosa spreads down from both margins to cover the base of the ulcer for a considerable distance, lying almost upon the muscularis. The muscularis mucosæ accompanies this extension of the mucosa for a short distance. The centre of the ulcer is alone uncovered by mucosa. It is clear, therefore, that the ulcer has been to a large extent healed. The exposed base is formed by a narrow remnant of submucosa. This consists of granulation-tissue, which is infiltrated by lymphocytes and a few plasma cells; considerable numbers of neutrophile leucocytes are

also present in places. This infiltration extends downwards into the muscularis, and laterally into the mucosa which has grown over the ulcer. In the infiltration here plasma-cells and eosinophile leucocytes are abundant. There is a fibrotic thickening of the subserosa beneath the ulcer, and in this there is a considerable infiltration by plasma cells and lymphocytes.

In the portion of mucosa which has grown over the base of the ulcer the cells of the tubules are distended by mucus and the lumina of the tubules are filled with mucus. A portion of the margin of a second ulcer is included in the section. It is recognised by an area of mucosa which lies almost upon the muscularis. The muscularis mucosæ is present in the outer parts of this area, but not in the centre. The mucosa in this area shows marked mucous catarrh.

In the non-ulcerated portion of the intestine only a few tubules in the mucosa show mucous catarrh. There is slight œdema of the submucosa.

Sections stained by the methods of Twort and Weigert-Gram show that there are numerous Gram-positive bacilli in the superficial zone of the exposed portion of the ulcer, and within and around the tubules of the mucosa which has grown over the ulcers. There are also a few Gram positive cocci. Similar bacteria are seen in the remainder of the mucosa, on the surface, and within and around the tubules. In this portion of the section, however, they are present in small numbers. There are no acid-fast bacilli.

(3) *Section from the right upper lobe of the lung.*—The interlobular septa are swollen by œdema. In places they are infiltrated by plasma-cells and lymphocytes. The large and small bronchioles are lined by epithelium. The large bronchioles contain some mucus and desquamated epithelial cells. In some of the smaller bronchioles the lumen contains a few neutrophile leucocytes. The majority of the infundibula are greatly distended by air. Small groups of alveoli are somewhat collapsed and are filled by neutrophile leucocytes. A few oval Gram-positive cocci and diplococci are present.

Bacteriological Examination.

Dr. P. N. Panton kindly examined the spleen for micro-organisms, and reported that *Bacillus coli communis* could alone be isolated.

Summary.

The rashes which have been described in the six cases were of three types—(1) An erythema; (2) a definite telangiectasis; (3) a purpura.

The erythema was recognised as a flush which completely disappeared on pressure. The areas of telangiectasis showed visible dilated vessels, and did not completely disappear on pressure. In form the areas of telangiectasis varied widely in different cases. Some were represented by a spider-like group of vessels radiating from a central point, others by sinuous vessels branching from a sinuous stem, others

by a network of vessels of wide mesh, others again by a network so closely meshed that the individual vessels could only be recognised with difficulty. The colour was always deeper than that of the erythema. In the telangiectatic areas the skin was more scaly than elsewhere. Many of the affected areas were slightly raised, and their borders were distinctly palpable. Raised areas, examined microscopically, showed œdema and slight extravasation, but no cellular infiltration (Fig. 1). During the fading of the telangiectasis, which occurred when the general condition of the patient improved, the smaller vessels first disappeared, leaving an occasional large capillary.

The purpura was represented by small hæmorrhagic spots, in some of which vessels were clearly visible.

The erythema was present in all six cases, and was associated with telangiectasis in five. The purpura was only present in two cases (Cases 4 and 6), and was associated with both erythema and telangiectasis. The distribution of the rashes varied. The erythemata were present usually on the distal portions of the extremities. The telangiectases were found especially on the thighs, and on the trunk around areas exposed to pressure.

The erythemata and the telangiectases appeared to be closely related to one another, both being the expression of a vascular dilatation. This relationship was demonstrated in Case 4, in which erythemata followed by telangiectases developed on lowering an extremity. The presence of dilated vessels in many of the purpuric spots showed the close relationship between the purpura and the telangiectasis.

The rashes were associated with œdema, wasting and diarrhœa. Since these three latter conditions were present in all six cases, and with the exception of a terminal endocarditis in Case 6, were the only marked pathological changes, it is probable that the rashes were caused by one or more of them.

Œdema was present in all the cases. In Case 6 it was present only in the right leg, and was the result of thrombosis of the right iliac veins. In the other cases it was general, and was the so-called "essential œdema" (Fairbanks [2], Hume [3]) which is found not unfrequently in children suffering from chronic diarrhœa. In Case 6 it was obvious that there was no direct causal relationship between the œdema and the rashes, because the œdema only affected the right leg,

whilst the rash affected both legs. It is most likely, therefore, that the rash in the other cases was not the result of the œdema, but owed its presence to one of the other two conditions which were common to all cases. These two conditions were wasting and protracted diarrhœa. Both of these were marked features in all cases.

Wasting was most severe in Cases 6, 4, and 1. Diarrhœa had been present in Case 1 for five years, and was especially severe in the twelve months which preceded death. In Case 2 there had been a moderately severe diarrhœa for the six months preceding admission, although after admission the child was constipated. In Case 3 diarrhœa had been present for twelve weeks. In Case 4 diarrhœa had been constantly present for more than a year, and had been severe during the three months immediately preceding admission. In Case 5 the child had suffered from diarrhœa for three months before admission. In Case 6 diarrhœa was a marked feature throughout the illness, which lasted three and a half months.

The excitant of the diarrhœa would appear to have no direct relation to the formation of the rashes, because in Case 1 the lesions in the intestine were tuberculous, in Case 6 non-tuberculous. Further, in Case 2 they were probably tuberculous, but in Cases 3, 4 and 5 there was no evidence of tuberculosis. It would appear, therefore, that any influence exerted by the diarrhœa was independent of its excitant.

It is very difficult to decide the respective influences of the diarrhœa and the wasting. The wasting was in all cases the result of the diarrhœa and therefore the diarrhœa must be regarded as the primary cause. The association, however, in adults of telangiectasis with wasting which has resulted from other causes than diarrhœa (*e. g.* malignant disease, cirrhosis of liver, and exophthalmic goitre), is strongly in favour of the assumption that wasting was the direct cause of the rashes in the present series of cases.

It may be concluded, therefore, that:

(1) The various rashes seen in this series of cases were the expression of vascular dilatation, the most characteristic being definite telangiectases;

(2) These rashes were the direct result of wasting, which owed its origin to protracted diarrhœa.

The cases may be regarded as examples of a clinical syndrome which

is characterised by the appearance of local dilatations of the vessels of the skin in children, who have undergone severe wasting as the result of protracted diarrhœa.

My best thanks are due to Drs. Kidd, Head, Grünbaum and Sir Bertrand Dawson for permission to publish the cases under their care, to Dr. Sequeira for many suggestions, and to Dr. Turnbull, Director of the Pathological Institute, for the reports on the necropsies performed on two of the cases and for much help in preparing this paper for publication.

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THE ÆTIOLOGY OF LUPUS ERYTHEMATOSUS.

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Introduction.

Lupus erythematosus is a disease which has claimed the interest of dermatologists for many reasons. The ætiology, pathology and histology of the disease are still indefinite.

Since Cazenave (1) wrote his historical paper in which he named and described the disease, its ætiology has been a favourite theme for discussion at various societies and congresses of dermatology.

As regards the ætiology there are at present two schools, the one holding the view that the disease is of tuberculous origin; the other, while not denying that in some instances the disease is due to the tuberculous toxin, maintain that it can be caused by toxins other than the tuberculous, such as may arise from faulty metabolism of the

kidneys, uterine diseases and digestive troubles, or the local effects of various irritants and atmospheric conditions, of which the most potent is cold.

The tuberculous hypothesis of its causation is chiefly taught and maintained by the French school of dermatologists, among whom its greatest upholder was the late Professor Besnier.

Other hypotheses have been enunciated as to its causation by various dermatologists, among whom may be mentioned Wilfrid Warde (2), who associated the disease with atrophic rhinitis. He believes that Lupus erythematosus is not a disease, but merely a stage in the course of many different affections—the damaged part, when unable to be self-reparative, undergoing destruction and replacement by fibrous tissue. There is little to be said for Jacquet's (3) theory that the central lesion is a sclerosis and slow destruction of the inferior cervical ganglion, nor do theories which assume the lesion to be caused by embolisms of attenuated bacilli which disappear rapidly from the tissue appear very plausible.

There is much that remains to be done in connection with the elucidation of the ætiology and pathology of this condition.

I will now give a *résumé* of recent literature on the subject, together with clinical observations on twenty successive cases, and with the results of histological examination in three of these cases.

Historical.

In a disease such as Lupus erythematosus, whose ætiology and pathology are so uncertain, it is only natural that its nomenclature should be a large one, as in earlier days each observer gave it a name which would agree with his own particular view as to its causation.

The following are some of the names given to this condition, with the author's name attached:

Erythème centrifuge, Biett, 1828; Seborrhœa congesitva, Hebra, 1845; Lupus superficialis, Parkes and Thompson, 1850; Lupus erythematosus, Cazenave, 1851; Herpes crétacé, Devergie, 1854; Vespertilio, Balmanno Squire; Lupus érythémateïde, Leloir; Erythema atrophicans, Morris; Ulerythema centrifugum, Unna.

In 1828 this disease was first described by Biett (4) under the title of Erythema centrifuge; in 1845 Hebra (5), of Vienna, gave it the name

of Seborrhœa congestiva, under the impression that the seat of origin of the disease was in the sebaceous glands.

A characteristic feature of the affection is the plugging of the pilo-sebaceous follicles with small greasy plugs, like comedones, and it was this observation that led Hebra to the view that it was a disease of the sebaceous glands.

In 1851 Cazenave drew attention to the fact that Erythema centrifuge (Biett) was a variety of lupus, and gave it the name of Lupus erythematosus; he was also the first, in 1856, to recognise the disease as affecting the hairy scalp.

In 1854 Devergie, under the name Herpes crétacé, described what he thought to be a new disease, but this was merely a variety of Lupus erythematosus.

In 1872 Kaposi (7) described a new form of the acute variety of the disease, in which, associated with abundant eruption, there were generalised phenomena often terminating in death.

Since this description it has been impossible for the various authors to agree as to what they understand by the acute disseminated type. During the last twenty years numerous authors have published articles on its pathology and histo-pathology, among whom may be mentioned Vidal, Besnier, Unna, Pernet, and others.

The term "Lupus erythematosus" leaves much to be desired, but in the light of our present defective knowledge it is difficult to see what could be substituted for it. Were the pathology of the condition better known some term denoting its pathological origin might be used, but in the absence of such knowledge we must continue to use the descriptive term "Lupus erythematosus."

Description of the Disease.

Before entering into a discussion as to the causation of Lupus erythematosus, it is advisable to give a short description of the nature, onset, course, and distribution of the disease. In order to criticise the various theories advanced, it is necessary first to have a full comprehension of the clinical appearance.

Lupus erythematosus is a chronic, moderately inflammatory, superficial, small-celled formation, characterised by one or more circumscribed, variously sized, usually oval or rounded, discrete or confluent,

pinkish to dark red patches, covered usually with yellowish scales and situated most commonly on the face, less frequently on the scalp, and more exceptionally on other parts, clinically resembling an inflammation with a tendency to scarring. It is a destructive dermatitis of extreme chronicity, limited to the superficial layers of the skin, spreading by centrifugal extension and by multiplication of foci, and leaving a superficial cicatrix.

Lupus erythematosus may be clinically divided into four varieties:

(1) Circumscribed or discoid.

(2) Diffuse or disseminated.

(3) Telangiectatic.

(4) Lupus pernio—chilblain lupus.

The French authors describe two forms of Lupus erythematosus—the fixed and the migratory; the latter may be taken to correspond to our disseminated variety. This form presents many varieties and corresponds to that described by Biett under the title "Erythema centrifuge." The migratory form is apparently more common in France than in this country, although it is rare over there. It is admitted by authorities in both countries to be closely associated with the presence of the tuberculous toxin, and in France they maintain that it is always a tuberculous exanthem.

(1) *Circumscribed or Discoid Variety.*

This is the common clinical form, and is usually seen about the nose, cheeks, and lobes of the ear, the next most frequent seats being the scalp and back of the fingers and toes. In the early stage, the disease begins as one or several rounded circumscribed pin-head or pea-sized reddish spots, upon which are adherent scales. When this scale is removed, it is found to dip deeply into the dilated sebaceous gland-duct, in which it forms a plug. This is the stage which Hebra first described as Seborrhœa congestiva, or primary eruptive spots.

These spots slowly extend peripherally, and eventually coalesce into one or more patches, sometimes slightly elevated or depressed, but with a pronounced border. This condition, when seen over the malar prominences, is the Lupus sebaceous of Hutchinson.

The course of Lupus erythematosus is essentially chronic, although in some cases retrogression occurs, leaving little or no scar; in the

majority of cases, however, the patches are persistent and progressive, and after reaching a variable size remain indefinitely more or less stationary, or if they clear up they leave a thin, white, depressed cicatrix.

The disease varies in the subjective symptoms it produces, being generally accompanied by no discomfort, though at times by some itching or burning.

(2) *Diffuse or Disseminated Variety.*

In this form, as a rule, the lesions appear first on the face, but later they may develop on any part of the body and often large surfaces are involved. The lesions are small, though usually presenting characteristics similar to the discoid variety; they are often crusted over like a pustular eczema; they may also assume atypical forms resembling Erythema multiforme, urticaria, etc.

The subjective symptoms are more severe, *i. e.* itching, burning, heat, and the patches may even be the seat of vesicles, pustules and bullæ. There may be symptoms, such as often occur in Erythma multiforme, *i. e.* pains in the joints, gastro-intestinal disturbances, and high fever.

In rare cases there are changes such as are found in erysipelas. This condition was described by Kaposi under the title of "Erysipelas perstans gallei," and in which he reported 30 per cent. deaths.

New lesions often come out in crops with symptoms of general disturbance and febrile reaction.

The eruptive phenomena persist, the disease often advances and often retrogresses, and in many of these patients, sooner or later, signs of tuberculosis supervene and death results, probably a majority of the recorded cases ending fatally.

(3) *Telangiectatic Variety.*

This form is much more rare. There is little or no change on the surface, except a persistent redness due to dilated vessels which has been likened to the patch which a clown paints on his face.

There is absence of scaling and dilated follicles, but there is marked thickening on pinching up the tissues; finally typical scars

not infrequently follow the involution of this form of the disorder. These cases run to a very slow course, and may remain for years with very little alteration. Case 1 in my series is an instance of this type.

(4) *Lupus Pernio.*

Lupus pernio is another unusual form in which the lesions are exhibited on the fingers and toes particularly, but also on other parts of the hands and feet, also on the pinna of the ear and face.

This variety commences as a persistent erythema, especially in winter; it ameliorates, but does not disappear in summer. This goes on for several years and eventually persists and assumes the discoid.

Relation to Tuberculosis.

The geographical distribution of the disease is remarkable, for the nearer we approach the tropics the rarer becomes the disease—a distribution which does not correspond with Lupus vulgaris or tuberculosis. It has often been noted that the disease is more prevalent in countries with a moist atmosphere, such as England, Norway, etc., and that patients having the disease often improve remarkably on going into a dry atmosphere such as Egypt.

The resemblance of Lupus erythematosus to Lupus vulgaris in its gross clinical features led many of the older dermatologists to regard the two as closely allied processes, if not actually identical. A more careful clinical as well as microscopical study of the two affections has, however, shown them to differ in so many respects that they are looked upon as totally distinct diseases.

Lupus vulgaris presents a typical tuberculous history; tubercle bacilli can be found in the tissues, and inoculation experiments give positive results. When Koch announced his discovery of the tubercle bacillus the ætiology and pathology of Lupus vulgaris was cleared up, but with regard to Lupus erythematosus repeated examinations for the tubercle bacillus always gave negative results.

The absence of positive knowledge concerning the ætiology of the disease under consideration has led to the most varied views as to its causation.

Lupus erythematosus is most generally believed to be produced by some local irritant, such as cold, or to be the result of some toxin either generated *in loco* (Robinson [8]), or reaching the skin from some distant focus of disease and attacking that part of the skin where the circulation is naturally weak from anatomical reasons, such as the bat's wing area of the face, the auricles, and sometimes the hands. In these exposed areas where the skin is thin, and stretched over cartilage or bone, it is conceivable that irritants of various kinds might easily produce more or less permanent patches of hyperæmia. Hence the theory of the toxic origin of the disease is greatly favoured by some observers.

The most interesting aspect of this is that which has been so strongly advocated by Boeck, of Christiania, following that already held by Besnier, Hallopeau, etc., and which has now been almost universally adopted by the French school of dermatologists, namely, that the toxin directly responsible for the lesions is the tuberculous toxin.

Hallopeau (9) may be taken as representing the French school, and his opinions coincide with those of Besnier, Boeck, etc. In an article on Lupus erythematosus he maintains that the affection is a tuberculous manifestation. He sums up the arguments in favour of this hypothesis as follows:

(1) Tuberculosis is often hereditary in a family affected with this disease.

(2) In cases of Lupus erythematosus one often sees other tuberculous manifestations, *i. e.* enlarged glands.

(3) Patients affected with Lupus erythematosus die more often of phthisis than those suffering from Lupus vulgaris.

(4) It is not rare to see the two diseases side by side in the same case.

(5) Lupus erythematosus reacts not constantly, but sufficiently characteristically, to tuberculin, both locally and generally.

(6) Typical tubercular lesions have been found in Lupus erythematosus (Audry [10]).

(7) The clinical resemblance between the two diseases can be most striking.

The objections that have been made to the tuberculous hypothesis he goes on to show are:

(1) Certain statistics show that the association of Lupus erythematosus with tuberculosis is rare in the same patient, but these statistics are at variance with those of the St. Louis Hospital in Paris.

(2) The tubercle bacillus is never found in the lesions.

(3) Inoculation experiments give invariably negative results.

In spite of these observations, he maintains that they go to prove that in Lupus erythematosus the infective agent does not act in the same way as in Lupus vulgaris, and also that it differs morphologically. We are therefore led, he says, to the hypothesis that Lupus erythematosus is a tuberculous manifestation distinct from that produced by the bacillus of Koch, and that its toxins differ in their action on the skin, thereby giving rise to transitory eruptions of the acute disseminated type. It must be admitted, however, that it is necessary to find this new microbic form. This interpretation has the advantage of reconciling the arguments invoked against the tuberculous nature of the malady.

The poisonous substances which result from the growth of the tubercle bacilli are not well known. It has been shown by many observers that dead tubercle bacilli when injected into susceptible animals are capable of producing, at the site of injection, tuberculous nodules ending in fibrosis.

E. A. de Schweinitz (11) has shown that a crystalline substance, which he obtained from pure culture of the tubercle bacilli, produced necrosis of the liver-cells of guinea-pigs when injected into that organ, and in the skin of other animals when used subcutaneusly.

The following results in which tuberculosis is noted in association with Lupus erythematosus have been published by observers; they show considerable variation.

Boeck (12) in a very long article gives a carefully tabulated record of thirty-six cases of the discoid variety. He found pronounced symptoms of tuberculosis in two thirds, or 66 per cent., and a family history of this disease in half the remainder; he concludes that the toxins of the tubercle bacillus act first upon the vaso-motor centres of the skin, and later upon that portion of the skin which is the seat of the vaso-motor disturbance.

Roth (13) has collected from the literature records of 250 cases of Lupus erythematosus, and in 185 of these there was more or less pronounced evidence of tuberculosis. This gives a percentage of

over 70. His view is, in the absence so far of finding tubercle bacilli in the lesions, that possibly the toxin generated was the causative agent.

Pick (14) found that out of forty-three cases at the Breslau clinic only eighteen gave evidence of tuberculosis.

Gunsett (15) gave the proportion of nine cases with tuberculosis out of nineteen examined.

Karl Kopp (16), in discussing the relationship between tuberculosis and Lupus erythematosus with reference to thirty-one cases of his own, states that only in eleven could any relationship with tuberculosis be demonstrated. In one case the disease was associated with lupus vulgaris.

Veiel (17) found thirty-nine cases associated with tuberculosis out of 119 collected.

Sequeira and Balean (18) in seventy-one cases of Lupus erythematosus found there was a family history of phthisis in thirty-four, *i.e.* rather less than one half, and of these, tuberculosis was slightly commoner on the mother's side. In thirty-seven cases there was definitely no tuberculous history; this observation they consider as valuable as positive evidence. Evidence of tuberculosis in the patient was seen in eight cases with phthisis. Eleven cases had tubercular glands and one hip disease. The proportion of tuberculosis in these cases is therefore 25 per cent.

However, statistics of this sort, showing such a large variation, cannot be regarded as conclusive evidence. It is perhaps possible that as tuberculosis often exists in a latent form which is difficult to diagnose, it is not improbable that the percentage of tuberculous cases may be greater than these figures would seem to show. Further, it is possible in this connection that in several of the cases, though there were no obvious tuberculous manifestations, some latent focus might exist which would have been revealed had the patient been given an injection of the old tuberculin.

Other points that are urged in favour of the tuberculous origin of Lupus erythematosus are:

(*a*) That occasionally it may be associated with the presence of tuberculosis of the glands, lungs, and viscera.

(*b*) It may occur associated with the so-called tuberculides, such as folliclis, Lichen scrofulosorum, and Erythema induratum or Bazin's disease.

This point is further strengthened by the fact that Erythema induratum is admitted to be more than a toxi-tuberculide. There is a definite tuberculous focus possibly due to emboli and endophlebitis of the affected region. Positive inoculations have been obtained from these foci by Thibierge and Ravant (19) and by Colcott Fox (20).

Brocq (21) describes a case in which Lupus erythematosus was present on the fingers and Lupus vulgaris on the face. When given iodoform the Lupus erythematosus cleared up, to return again on the drug being withheld. He explains this in the following manner: Toxins were formed by the tuberculous Lupus vulgaris, which by slow degrees poisoned the organism, so giving rise to Lupus erythematosus. This explanation, he says, bears out the theory he propounded some years ago of the ætiology of Lupus erythematosus of the aberrant form, namely, that it is always an infection, and in most cases due to an infection of tubercle. In those cases in which the tubercle bacillus can be implicated, he says, there is a passing infection of tubercle which produces the Lupus erythematosus. It is therefore a sort of objective syndrome of multiplex pathogeny analogous to scarlatiniform erythema, polymorphous erythema and urticaria.

Besnier (22) states that without doubt tuberculosis can bring about erythema and erythrodermia, and whereas formerly, for the demonstration of the tuberculous nature of an infection, tubercle bacilli must be found, nowadays, when it is known that (as shown by tuberculin and post-mortems) tuberculous foci can be latent for long periods of time, and by infinitesimal doses of toxins infection can be brought about in their immediate neighbourhood and at a distance, we must bear in mind the possibility of certain erythemata of a transient nature being of tuberculous origin. Thus Biett's Erythème centrifuge can absolutely disappear without being followed by further lupus changes.

On the other hand, there are strong arguments against the tubercular hypothesis.

(1) Tubercle bacilli have never been found in the lesions of Lupus erythematosus and the disease is not a true tuberculosis of the skin.

The histological observations of Audry are interesting but are open

to two objections. He found tuberculous lesions with giant-cells in three cases of Lupus erythematous; he had to make a large number of sections to obtain these results. Bacilli were never found. Against his results it should be noted that his experiments were performed a long time ago, and that they have not been confirmed by other observers. Further, it is suggested that his specimens were not taken from a true case of Lupus erythematosus, but from that mixed variety of Lupus vulgaris and Lupus erythematosus called "Lupus érythématoide," by Leloir.

(2) Inoculation experiments have been notoriously unsuccessful.

(3) The lesions do not, as a rule, react to tuberculin injections. If Lupus erythematosus is due to the tuberculous toxin, an injection of tuberculin might reasonably be expected to bring out lesions of the disease, but so far I have been unable to find any such case reported.

Crocker (23) has pointed out that in the early days of the employment of tuberculin for Lupus vulgaris and phthisis, thousands of patients must have had the tubercle toxins injected, but in no recorded case was Lupus erythematosus produced. Moreover, tuberculin caused either no reaction or only a trifling one in all but a very few cases of Lupus erythematosus in which it was injected.

(4) Very few cases of disseminated Lupus erythematosus are recorded, and yet the number of patients with localised tuberculous foci is extremely great.

Pick (14), in forty-three cases that occurred in Neisser's clinic, in which, in spite of the most searching examining and of a careful inquiry into the previous history of the patients, only eighteen gave positive evidence of tuberculosis. In twenty-nine instances tuberculin was injected and fifteen cases showed a definite tuberculin reaction. These were all cases in which tuberculosis had been previously detected. From these observations, and also that the histological changes are so unlike those found in tuberculosis of the skin, and again that tubercle bacilli have so far not been found, he concludes that we have no right to regard Lupus erythematosus as a manifestation of tuberculosis.

Bunch (24) has estimated the tuberculo-opsonic indices in ten patients suffering from Lupus erythematosus. None of these cases suffered from tuberculosis, but in three instances there was a clear

history of tubercle in near relations. In the three cases with a definite family tuberculous history the opsonic index was below the margin of health in two, and just above it in one. In the other seven cases the indices were well within the margin of health, and in several instances approximating to the normal. From these results he concludes that these estimations go to prove that in a certain number of cases of Lupus erythematosus there is no active tuberculous focus, and the lesions do not in themselves constitute evidence of the presence of tuberculosis in the patient.

E. Senger (25) refers to the good results obtained by him in Lupus vulgaris by inunction of the Lupus surface with a tuberculin ointment.

There is a sharp reaction with swelling and elimination of the nodules through necrosis, etc. He says that this reaction is a specific one, and is on the same plane as the von Pirquet and the Wolff-Eisner reaction, and that it can also be used for differential diagnosis. He thinks therefore that if Lupus erythematosus were of a tuberculous nature there should also be a similar reaction after a tuberculin inunction, but this is not the case, and the result has been invariably negative; he has also given tuberculin injections, and had no reaction. He therefore concludes that Lupus erythematosus is not of a tuberculous nature, and that the opinion of the French school is not tenable.

(5) The transitional cases between Lupus erythematosus and Lupus vulgaris, on which so much stress is laid by the French authors, are extremely rare. The differential diagnosis between them cannot, it is true, always be made at a glance in the early stages, but in the fully developed disease there is rarely much difficulty. Histologically there are well-marked differences.

(6) It must be admitted, even by the strongest exponents of the tuberculous hypothesis, that in a large proportion of cases of Lupus erythematosus there is no personal evidence of, or family history to, tuberculosis. It is remarkable, considering the wide distribution of tuberculosis, how rarely one gets a distinct family history of tuberculous manifestations in cases of Lupus erythematosus such as one so frequently obtains in Lupus vulgaris and other certain tuberculous diseases.

(7) Cases are uncommon in which phthisis, enlarged glands, Lupus

vulgaris or other forms of tuberculosis have been associated with, or have developed in patients with, Lupus erythematosus.

(8) The bacillo-toxins of tuberculosis are not cytolytic or cell-destroying, which is so characteristic of the toxin of Lupus erythematosus. When the skin is attacked by tubercle bacilli there is a formation of nodules, and the ulceration which occurs later is probably due to the co-operation of other organisms.

(9) The tuberculous hypothesis must have other support than mere supposition, and must stand or fall by the demonstration, of the presence or absence of tuberculous toxins in the patient's blood or tissues.

These observations seem to dispose of the tuberculous hypothesis as a cause of Lupus erythematosus, but some later observations must be mentioned which, on the other hand, are in favour of this hypothesis.

Paris and Dobrovici (26), working in Gaucher's clinic, found the agglutination test for tubercle bacilli positive in the fixed variety of the disease, but negative in the migratory form. This would seem to indicate that the discoid or fixed variety was tuberculous, and the migratory form of some other origin.

Gougerot (27) has recorded the successful inoculation of tuberculosis into guinea-pigs with materials obtained from lesions of Lupus erythematosus of the fixed variety, and further, de Beurmann and Gougerot have obtained positive results with Calmette's ophthalmo-reaction in four cases, and non-success in some cases, they say, does not negative tuberculosis, since Lupus vulgaris may not react with the cuti-reaction on the patches.

Sequeira (26), in twenty-one cases presenting no clinical evidence of tuberculosis, obtained a positive reaction in fourteen instances with the Calmette and von Pirquet tests.

This vexed question of the two hypotheses of the cause of Lupus erythematosus must here be left and further observations awaited.

(*To be continued.*)

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held on Thursday, January 18th, 1912, Sir Malcolm Morris, K.C.V.O., President of the Section, in the chair.

Dr. Graham Little showed (1) a case of *Striæ cutis distensæ*. The patient was a Haileybury boy, aged 16 years, who in the summer had received an injury to his eye in playing fives, in which he had nearly lost the eye. Strict abstention from exercise had been enforced on him, and he had been at home for several weeks. He had had "mumps," with orchitis, in August, 1911, and had old valvular disease of the heart. During this period of forced inaction he had become much stouter, but he had always been inclined to put on fat. The eruption was first noted on December 8th, 1911, when bathing; he might have had it for a few days previously. There were no subjective symptoms associated with it.

When shown the patient had a large number of irregular linear raised red swellings on the outer and posterior surface of both buttocks and thighs. In some places the swelling and redness had somewhat subsided, leaving plane or depressed cicatricial tissue. But in the majority of cases vivid redness and swelling were present; the lines were vertical, zigzag in outline, about $\frac{1}{8}$ in. wide, not painful to touch, and varied from 1–3 in. in length. Except upon the thighs and buttocks the skin was healthy.

Striæ cutis was a rare affection seen in so early a stage. Several instances of the condition had been recorded as occurring after scarlatina, typhoid, and in only one case, as far as the exhibitor was aware, in sudden obesity. It was a question worth considering whether the toxin elaborated in the specific fevers (and in this instance in mumps with metastatic orchitis) were instrumental in weakening or destroying the elastic tissue, an accident which, *à priori*, might be expected to produce the disease. Histologically absence or destruction of elastic tissue had been reported in the site of the actual striæ.

The President said he had seen several cases of the kind following typhoid fever: young patients often grew rapidly after that disease, and he reminded

members that there were cases of the kind which were independent of infections, such as the striæ following pregnancy. As a rule the condition was not seen as early as this. Probably all members had seen young girls who, at puberty, suddenly became fatter, especially of the thighs and breasts. The red marks passed away, and the lesions became white.

Dr. F. Parkes Weber said that the patient declared that the development of the excessive "striæ atrophicæ" was preceded by a very severe attack of mumps. In some severe cases of mumps the pancreas was probably involved and the occurrence of nutritional changes was therefore quite likely. Such "striæ" were known sometimes to follow typhoid fever, scarlatina, and might develop after broncho-pneumonia and exhausting conditions; they doubtless might likewise be an indirect result (granted a temporary special cutaneous tendency as a personal predisposing factor) of severe mumps. Perhaps the most striking examples of "striæ atrophicæ" were the rare cases in young children, who, owing to some disorder of their "internal secretions," developed a remarkable condition of "plethoric obesity."

Dr. Adamson did not believe that these linear striæ were the result of stretching of the skin. He thought they had the same origin as atrophic macules. In cases of macular atrophy, linear striæ were nearly always present as well. In macular atrophy it had been shown that the earliest stage was inflammatory, and that the final atrophy was due to absorption of the elastic tissue. He had often noticed that in linear atrophy, in the early stages, the striæ were red and raised, and that the thinning and whitening of the striæ came later. He had recently exhibited two or three cases of linear and macular atrophy in tuberculous and syphilitic patients, and he believed that the primary cause of these macules was some poison—tubercle, syphilis or other—which attacked particularly the elastic tissue. Linear striæ, when occurring without macules, were generally associated with some illness, *e. g.* enteric fever, and it seemed possible that they might also be of toxic origin.

(2) *A case for diagnosis.* The patient was a little girl, aged 5 years. She had at the present time a number of slightly scaly, reddened patches, with the following distribution: Outer and upper part of left thigh, a patch 4 in. by 3 in.; upper and outer part of left buttock, a patch 4 in. by 6 in.; on the posterior surface of left buttock, a patch 1 in. by 1 in.; on the upper and outer part of the right thigh and buttock, a patch 6 in. by $3\frac{1}{2}$ in.; on outer side of right thigh, just below the last mentioned, there was a patch 3 in. by $2\frac{1}{2}$ in.

Over the middle of the posterior surface of the right buttock there was a small patch, 1 in. by $\frac{3}{4}$ in.; on the right side of the abdomen, below the umbilical level, there was a small patch, oblong, $1\frac{1}{4}$ in. by 1 in.; on the front of the upper arms, about the middle of the prominence of the biceps muscle on both sides, there was a symmetrical patch about 1 in. by 1 in.

The patches had begun to appear about a twelvemonth ago, and had persisted ever since. There was no disordered sensation in the affected areas. The edges of the patches were slightly more raised and were redder than the patch as a whole.

Scrapings from the surface and from the edge had been carefully examined for ringworm, with a negative result.

The mother had died of phthisis in the last few months; there was a very convincing narrative of a peculiar habit which she had of rubbing the child's limbs with her (the mother's) own saliva. The child was a thin, delicate little girl, but with no signs of definite constitutional disease.

The exhibitor had been inclined to group this case with the cases of circumscribed symmetrical dermatitis, called by Unna Eczema seborrhoicum areatum; the redness, large size of the patches and comparative freedom from scaling differentiated this case, however, from all others he had previously seen, and he accordingly preferred to exhibit it as "a case for diagnosis." No treatment had as yet been adopted for the disease.

The PRESIDENT said parts of the eruption disappeared from the centre of the patches and a fresh ring seemed to start in some of them.

Dr. MACLEOD showed *a case for diagnosis*. The patient was a young man, aged 30 years, who had been suffering for the last five years with an eruption which had been diagnosed as syphilis, and for which he had been under almost continuous treatment. In 1907 he contracted a sore on the penis while in Brazil; this was followed about twelve days later by a number of scaly patches about the scrotum, a small boil on the inside of the thigh, and two months later by a scaly eruption chiefly localised on the abdomen. The glands were not definitely indurated, and there was no disturbance of the general health. The affection was diagnosed at that time as syphilis, and it was seen by several competent observers on his return to this country in 1908, and the diagnosis corroborated. When seen in 1911 by the exhibitor he had a widely distributed eruption on the trunk and limbs, consisting of reddish macules or slightly raised papules about the size of a split-pea to a threepenny-piece, which were covered with a delicate scale. These kept on developing, lasted a month or more, and disappeared without appreciable scarring,

though here and there a slight change in the texture of the skin could be detected where they had been. In a few of the lesions the thickening was palpable, but the majority of them could not be felt, and there was no definite staining left on diascopy. The lesions were not confined to any special region, being no more numerous on the extensor than flexor aspects, and they were absent from the palms, soles, face and scalp. He had been treated with mercury up to 1910 by the mouth and by injection. This was discontinued by the exhibitor. A Wassermann reaction was done, with negative results, and a lesion from the arm was excised for microscopical examination. This showed a dilatation of the blood-vessels in the papillary and sub-papillary layers with an infiltration of small inflammatory cells, but no plasma-cells; in addition were several groups of inflammatory cells more deeply seated in the corium; the overlying epidermis was in a state of parakeratosis. The appearance of the section did not suggest any form of granuloma, but rather a superficial inflammatory condition of the type of psoriasis or a seborrhoide.

The persistence of the eruption, in spite of mercurial treatment and the negative Wassermann reaction, seemed to put syphilis out of court, while the clinical appearances and the histological structure pointed rather to a psoriasiform seborrhoide or an anomalous psoriasis.

Dr. Whitfield said he leaned towards it being tuberculide.

Dr. Adamson said that although clinically and histologically the lesions in many ways suggested psoriasis, he was inclined to agree with Dr. Whitfield that the eruption was a form of tuberculide. There was a tendency to grouping in places which suggested Lichen scrofulosorum, and the grouped papules appeared to be situated upon areas of slightly atrophic skin, reminding him of a case of Lichen scrofulosorum with macular atrophy which he had exhibited on a previous occasion (October 20th, 1910). That a tuberculide might simulate psoriasis was evident from the fact that the tuberculide exhibited recently by Dr. Bunch had been some years previously diagnosed by the late Dr. Crocker as an ulcerating psoriasis.

Dr. Lieven (Aix-la-Chapelle) said the case was certainly not one of syphilis: he regarded it as Seborrhœa exfoliativa. This man had had no local treatment.

Dr. Sequeira said the patient had had mercurial ointment rubbed in every other day for five weeks on one arm only, but it made no apparent difference.

Dr. Stowers said that he appreciated the difficulty of diagnosis in the early stage of this case, but, as the result of Dr. MacLeod's recent investigations and the present condition of the patient, he did not regard the eruption as syphilitic. In his opinion it was probably seborrhœic in nature with psoriasiform characters superadded.

Dr. G. Norman Meachen showed *a case for diagnosis*. The patient was a married man, aged 56 years, an artist's model, who had had malaria in 1886 when in a regiment in Algeria, but who gave no history of venereal disease. Fourteen years ago, after drinking some hot tea, he first experienced a sensation of itching, and noticed that he "came out in irregular pink blotches upon the stomach." Two years after this he became ill with staggering, weakness and faintness, and in 1900 he consulted a physician at the Brompton Hospital, where he was given cod-liver oil and malt. At this time it was observed that the skin around the loins was becoming a "smoky, tawny yellow" colour, and he was informed by two physicians that he was suffering from Addison's disease. Another physician at a third hospital thought that he had neurasthenia.

In October, 1911, he fractured a couple of ribs on the left side, being treated at the West London Hospital, where a "yellow plaster" was applied over the injured area. This caused great irritation of the skin, and shortly afterwards a pink rash appeared upon the abdomen and arms, for which he was given medicine. In November last he consulted the exhibitor at the Blackfriars Skin Hospital, when the chief symptoms were the intense pruritus and the increase of pigmentation of the skin, most marked upon the back of the trunk.

About six weeks ago an irregularly mottled, slightly scaly erythematous eruption appeared on both surfaces of the limbs, the patches being ill-defined and resembling the rash met with in cases of parapsoriasis. The urine contained neither sugar nor albumen.

Further inquiries of the patient elicited the fact that he had taken "a good deal" of arsenic, but not recently. A microscopic section from one of the patches upon the forearm merely showed a fairly extensive small-cell proliferation around the blood-vessels and in the upper parts of the papillæ.

The case excited a considerable amount of interest, few members caring to commit themselves to a definite diagnosis. The biopsy did not, certainly, favour the view, at one time held by the exhibitor, that the condition was a pre-mycotic one.

The President said it was very lichenoid in places. The lesion on the leg was the only one which was raised. He supposed that the question of drug eruptions had been eliminated. He asked whether any member had seen persistent belladonna eruptions, because the colour of those was much more like the

colouring of the skin of the Red Indian. He had a case in a person who was poisoned by drinking belladonna in mistake for some other mixture. The danger symptoms all passed away, but she was left with a persistent purply-red eruption all over the body, with practically no itching, and it lasted a long time, two or three years.

Dr. MacLeod said that the fact that the lesions were not palpable seemed to him to put the pre-mycotic condition out of court, nor did he think the case belonged to the "para-psoriasis" group. He regarded it as a persistent toxic erythematous condition more nearly related to urticaria.

Dr. Sequeira showed (1) a *case for diagnosis*. The patient, a married man, aged 58 years, noticed in August, 1911, a small tumour on the forehead above the right eye, and shortly afterwards a similar small swelling over the left eye. Three weeks later he found a flat swelling in the epigastrium. He had never had syphilis, and the only illness he could recall was an attack of bronchitis and "asthma" a few winters ago. He has four children in good health, and there have been no miscarriages. There was no history of gout, rheumatism or cancer in the family.

When the patient was shown at the meeting there were three tumours. One the size of a filbert-nut on the forehead, about an inch above and to the outer side of the right eyebrow. This tumour was movable over the subjacent tissues, of moderately firm consistence, rounded in outline, and the skin over it was of red tint. The patient was positive that the integument was of normal colour when the growth was first noticed. A similar but slightly smaller tumour was present above the left eyebrow at a little lower level. This had the same characters as regards mobility, consistence and colour. In the epigastrium there was a larger flat growth about three inches transversely and two inches vertically. This was less well defined than the other growths, its surface was of a dull red tint, the colour shading at the margins into the tint of the normal skin. This tumour was not very mobile, but this appeared to be due to the fact that the skin was somewhat stretched. There were no deep connections.

There had been no antecedent eruption at any time, and there was no pruritus, and there had been none. The lymphatic glands were not enlarged. The spleen could not be felt. The Wassermann reaction was negative; the blood examination revealed no abnormality. There was no evidence of visceral disease.

The case was brought up to obtain the opinion of the members

present, the exhibitor having in mind Mycosis fungoides, tumour *d'emblée* type, and sarcomatosis. It may be mentioned here that there had been no wasting since the appearance of the tumours in August and September last. Arsenic had been given, and the tumours have been exposed thrice to the X-rays, and the patient thought that there had been some diminution in their size, an opinion which the exhibitor was unable to share.

The PRESIDENT said the case reminded him of one he had in the days gone by, in which for a long time the diagnosis was syphilis, but eventually that was altered to Mycosis fungoides.

Dr. WHITFIELD did not incline to the view that it was Mycosis fungoides; to him it looked more like primary sarcomatosis. Dr. Pringle and he had had a case of primary sarcomatosis of the skin together. This patient was unable to submit to X-ray treatment for six months after the diagnosis was made, and very great increase in the number of the tumours took place during this period. Dr. Whitfield afterwards treated him with X-rays, and he had now been absolutely without symptoms since June, 1910, *i. e.* over eighteen months. In this case the fact that no reaction was given by the tumours to X-rays was strongly against the diagnosis both of Mycosis fungoides and sarcomatosis. He urged that a biopsy be made.

Dr. COLCOTT FOX said his view was that the lesions were most likely lipomata.

Dr. R. A. BOLAM (Newcastle) agreed with Dr. Colcott Fox's idea that they were lipomata. He called attention to the fact that the lesion on the abdomen was lobulated, and part of its appearance might be due to treatment.

(2) Cultures of *Trichophyton plicatile* of the group called "neo-crateriforme," made by Dr. Sabouraud from Dr. Sequeira's case of tricophytic granuloma shown at a previous meeting. The cultures resemble somewhat closely those of the crateriform endothrix fungus. The parasite appears to be relatively common in Copenhagen, for Bang has described a series of twenty-eight cases, while Dr. Sabouraud has only seen the fungus in two other instances.

(3) An extensive *nævus* affecting chiefly the left side of the body and partially the right side of the neck in a girl, aged 14 years. The nævus was of very similar character to that shown by Sir Malcolm Morris at the last meeting, the lesions consisting of closely set pits apparently of the sebaceous glands, many of which contain black filaments and plugs. The close resemblance of the condition to perforated cardboard noticed by Sir Malcolm in his case was present in this patient. In a few areas the plugs in the glands

were horny and projecting above the surface. The areas affected were the neck on both sides, the left side of the trunk, and the left upper extremity. The areas were somewhat band-like and encircled the trunk, ending sharply at the middle line before and behind.

The case was shown by the courtesy of Mr. Bruce Roxburgh, Ophthalmic Surgeon to the London Hospital, the patient being under his care for cataract, upon which an operation had been performed.

Dr. Haldin Davis said that he had had a similar case in a little girl, in whom, however, the extent of the nævus was limited to a narrow area on the neck. He had shown the case to the Section, and a photograph was published in the *Proceedings*. Microscopic section showed that the follicles were really mere crypts caused by dimples in the skin, and they were filled with horny material.

Dr. James Galloway said the President and others would remember the remarkable case brought from Holland and shown at the International Congress of Dermatology in London by the late Dr. Selhorst, of Amsterdam. Dr. Selhorst's case was that of a young woman, about twenty-four years of age, in whom an acneiform nævus involved the left side of the chest, including the left breast, the left arm, and the left side of the neck. In this patient's case the condition was of congenital origin, and the same honeycombed condition of the skin as in Dr. Sequeira's little patient was seen in a greatly exaggerated form. The honeycombed aspect seemed to be produced by the presence of crypts or convolutions of the skin filled with sebaceous material and badly formed desquamating epithelium. Dr. Galloway had no doubt that Dr. Sequeira's case was of the same nature as the one referred to. A short account of the case by Dr. Selhorst and photographs were published in the *British Journal of Dermatology*, vol. viii, No. 11, p. 419. Dr. Galloway thought that the disfigurement produced by the eruption could be a good deal improved by the careful use of solid carbon dioxide.

Dr. Whitfield asked whether an examination had been made to ascertain whether the plugs contained the Sabouraud bacillus. If not it would be interesting for that to be done. As regards the treatment, he thought that carbonic acid snow would remove the present mole. He had never found a mole which penetrated beyond the corium. In hairy moles one could even remove the hairs with CO_2 snow, and the hair roots lay deeper than the mole structure.

The President said it was markedly spinous, and was unilateral. It would be interesting to know if the mother could give a history of what the condition was as a baby. A pyogenic infection might cure it. He did not think Dr. Selhorst's case was tubercle; the conclusion seemed to be that it was nævus; in that case there was much ulceration and œdema. Members would remember the case of linear nævus which was under his, the President's, care for a long time. The condition there was over the whole of one half of the body, with streaks down the leg and arm. They were more like warty growths, and there were no depressions. Many of the warty lesions were filiform, long thin tapering points.

Dr. Stowers referred to a case exhibited by him in 1907, with characters corresponding in some important respects to the present patient and bearing upon the remarks of the President. In his case (which was fully described, with illustrations, in the *Brit. Journ. of Derm.*, vol. xx, 1908) a girl, aged 8 years and 4 months, had an unusual development of this disease. The lesions developed from birth to the age of six years, and were characterised by marked symmetry upon the lower extremities and trunk before they appeared upon the forearms and hands. The constituent elements of the eruption were papular, with or without scales, and increasing in size became raised, exuberant, indurated outgrowths culminating in large warty developments and spiny prominences. Of these some were single and discrete, while others were compressed into groups, parallel streaks, or ribbon-like bands. They were especially marked upon the upper arms and the contiguous surfaces of the index and second fingers of the left hand. These bands corresponded to the long axis of the limb affected, but their direction upon the trunk was transverse to the axis of the body.

Dr. F. Parkes Weber described the sequel to the case of *chronic artificial skin-eruption* shown at the meeting of December 15th, 1910 (see *Proc. Roy. Soc. Med.*, Dermat. Section, 1911, vol. iv, p. 43). The patient was a woman, aged about 37 years, with a long past history of functional nervous affections as well as of malingering. For the last seven and a half months she had had a chronic bullous or eczema-like eruption, with superficial ulceration, on the front of the abdomen. This was apparently due to local irritation of some kind, but the exact cause could not be ascertained. In spite of treatment the eruption continued on and off till December, 1911, when she was again an in-patient at the German Hospital. At that time the eruption (which had persisted for over 19 months) was definitely bullous and involved the whole of the front of the abdomen. The skin was, as a consequence, much discoloured, and reminded one of the appearance of the hands in a severe case of Epidermolysis bullosa. In short, the eruption, considering its localisation, corresponded to no known natural disease, and the past history of the patient made it almost certain that it was artificial, and produced in some way or other by local irritation on the part of the patient herself. A starched bandage was applied to the abdomen in order as far as possible to keep the patient's hands away from the affected skin. The bandage, however, became loosened, and probably (by deflating her abdomen) the patient was able to introduce her hand under the upper anterior portion. At any rate, when the bandage was removed, bullæ were found to have developed over the corresponding

portion of the abdomen, and the house-physician, Dr. G. Dorner, observed that there were dark specks in the raised epidermis over some of these bullæ. By microscopical examination he found that the dark specks contained minute glistening greenish particles, which he proved to be powdered cantharides, by comparing them under the microscope with the actual powder obtained by crushing up a dried specimen of the blistering beetle, *Cantharis vesicatoria*. The patient, however, in spite of this evidence, would not acknowledge any deception on her part. In some respects the case might be compared to one recently described by Dr. G. Hirsch at a meeting of the Gynæcological Society of Munich (December 15th, 1911). Hirsch's case was that of a woman who within two years had had her vermiform appendix removed and had had three other abdominal operations performed. On account of menorrhagia she was treated by X-rays and developed ulcers, which gradually spread over her whole abdomen; but these were spurious "X-ray ulcers," and were discovered to be self-inflicted by means of hydrochloric acid.

Dr. Graham Little called the attention of members to a case of artificial dermatitis in a young girl shown by him a few months ago, the sequel of which had been interesting. This girl had been accustomed for many months to produce the skin-lesions, probably at night, upon her arms and hands; she had recently been under the care of a Christian scientist, who, in the mother's words, by prayer and the "laying on of hands" had completely cured the disease, so that she no longer had the eruption. The child had been recently seen, and the fact of complete freedom from eruption was corroborated—the patient was much more composed, and the anæsthesia of the pharynx and palate, which had been extreme, was much less. The influence of religious suggestion on an impressionable and nervous child no doubt explained this improved state of affairs.

Dr. Lieven said that when the Insurance Bill had received its proper development in this country there would be many such cases. In Aix one grew accustomed to them in the persons of workers in chemical factories. Extraordinary skill was shown in producing conditions of the hands. They diluted the acids in such a clever way that one could not make a diagnosis from testing with them afterwards.

MANCHESTER DERMATOLOGICAL SOCIETY.

Ordinary Meeting, held Friday, January 19th, Dr. R. B. Wild in the Chair.

Dr. R. B. Wild showed (1) *acute Lupus erythematosus* in a woman, aged 44 years.

Four months ago she first noticed redness of the sides of the nose, which gradually spread, invading first the right cheek and later the left.

When shown, she had a typical butterfly-wing patch on the face with sharply defined borders. She had also a few isolated red spots on the face. The large patch showed little, if any, atrophy, but there was some plugging of the follicles and the colour was bright red.

She had also a small red spot just above the left ear.

Both hands presented red, erythematous spots, angular, flat, and slightly glistening and somewhat suggestive of Lichen planus papules. They, however, showed distinct atrophic changes. On the wrists these papules had run together to form confluent patches.

(2) *Molluscum contagiosum* in a boy, aged 10 years. The lesions were distributed practically over the whole body and limbs. With the exception of the arms and legs the lesions were not characteristic, but had the appearance of a pustular dermatitis; and on the face the patient had some typical impetiginous lesions. Dr. Wild was of the opinion that these manifestations were due to a secondary pustular infection of the original lesions.

(3) A *case for diagnosis.* The patient, an adult male, aged 23 years, presented a deep-cut ulceration at the inner margin of the left eyebrow. The edges were slightly raised, did not feel indurated, and were somewhat irregular, especially at the lower and outer margin. The floor of the ulcer was somewhat papillomatous. The general opinion was that it was a broken-down sebaceous cyst, but some members suggested that a piece of the margin should be removed to verify the diagnosis by microscopic examination.

Dr. Lancashire showed a case of *Lichen planus bullosus.* The patient, Mrs. E. M—, aged 66 years. Seven weeks before admission the patient had an acute eruption of what she described as a red,

very irritable rash. She had recently had much mental worry. A few blisters had been noticed.

On admission the body and limbs were covered with an extensive eruption of Lichen planus. The papules were typical in character, but more scarlet in colour than usual.

In most regions the papules were discrete, but in a few places they had run together to form sheets.

The patient's temperature was normal and her general condition good.

Two days after admission bullæ appeared. These varied in size from a lentil to a pigeon's egg, and were exceedingly numerous, being especially marked on the lower limbs. On the thighs and legs many of the bullæ were hæmorrhagic, and hæmorrhage was also observed in some of the purely papular lesions.

In the cruro-genital region the skin presented the appearance of a seborrhœic dermatitis.

Mr. Savatard showed (1) a man, aged 50 years, with a *rapidly growing epithelioma, in the left submaxillary region on old scar-tissue*. The tumour was now two inches in diameter. He gave a history of three months' duration.

Some years ago the same patient was treated at the Manchester Skin Hospital for Lupus vulgaris. At that time he had a small epithelioma on the right cheek, which had been completely absorbed under the influence of X-rays.

(2) *Lupus vulgaris* in a woman, aged 52 years. The patient had presented numerous widespread plaques of lupus-tissue, and when in this condition was shown at a meeting of the Society nine months previously. She was now shown to demonstrate the result of treatment with tuberculin. In April, 1911, she was admitted as an in-patient and given repeated injections of Koch's old tuberculin ($\frac{1}{2}$ c.c. of 1 in 1000 gradually increased to 1 c.c. of 1 in 50), without producing any reaction and without benefit.

She was discharged at the end of June, and since that date had been treated in the out-patients' department with 5 per cent. tuberculin ointment, which was freshly applied daily. In spite of the fact that she has never had any apparent reaction a large number of the lupus plaques had entirely disappeared.

(3) A case of *Tuberculosis verrucosa cutis* on the dorsum of the foot of a boy, aged 12 years.

The lesion was scraped and 5 per cent. tuberculin ointment applied.

In the last two years the exhibitor stated that he had obtained very satisfactory results in similar cases by this line of treatment.

CURRENT LITERATURE.

ON THE SO-CALLED SARCOMA IDIOPATHICUM MULTIPLEX HÆMORRHAGICUM (KAPOSI). Dalla Favera. (*Archiv f. Derm. u. Syph.*, 1911, Bd. cix, p. 387.)

The paper is based on six cases, in three of which death occurred, and a post-mortem examination was carried out.

In two out of three metastatic growths were found in the internal viscera. The third fatal case died of tuberculosis. The chief clinical points elicited are :

(1) The disease begins, as Philippson first pointed out, in a single focus.

(2) In several cases the outbreak of the disease has followed on a trauma.

(3) It is well known that the tumours have a special tendency to hæmorrhage, but it is also the fact that a hæmorrhage into an apparently healthy part of the skin may be succeeded by the development of a tumour.

(4) The tumours have only a moderate extension, and may even resolve and disappear.

(5) The duration of the disease may be from two or three to even more than twenty years. The average is from eight to ten years.

Histologically it is found that—

(1) There is a new formation and dilatation of the blood-capillaries often in a very early stage of the tumour formation.

(2) There is also new formation and dilatation of the lymph-vessels.

(3) The third component is the spindle-cell, the origin of which is doubtful. Some have considered them as related to the capillary new formation, and some have even gone so far as to believe that they are derived from the endothelial cells.

(4) There is a small-celled and plasma-celled infiltration.

Lastly, Favera discusses the nature, and states that though the infectious theory is attractive it has fewer adherents than before the histology was so closely worked out. Up to the present we know of no new growth the infectious nature of which is proved and which offers the histological pictures of Kaposi's sarcoma.

A. W.

TREATMENT OF LEPROSY IN BRITISH GUIANA. K. S. Wise. (*Journ. of Lond. School Trop. Med.*, 1911, vol. i, p. 63.)

In this contribution the various remedies which have been used in the treatment of leprosy are referred to seriatim. This disease is very common in British Guiana and there is ample opportunity there for testing the therapeutic value of any of the remedies.

Chaulmoogra oil has been widely used in doses of 10 m in emulsion and milk, and externally as a liniment of 1 part to 15 of sweet oil. Under this treatment cases especially of the nodular type improve up to a certain point, then become stationary, no absolute cure seeming to have been effected by it.

Gurjun oil has also been extensively employed, but the results from it have been disappointing and no definite cure has taken place (Hillis).

Both these oils are still in intermittent use in the colony. Injections of perchloride of mercury as recommended by Radcliffe-Crocker were given an extensive trial, and after six months Kennard reported that the treatment did not prevent acute exacerbations of the disease nor had any effect on the leprotic fever. It had no definite effect on the ulcers or disease of the bones, and the bacilli were as readily found in the nodules.

In 1908 the "nastin" treatment was started at Mahaica under the direct supervision of Deycke himself, who introduced it. For this treatment 111 lepers, 69 males and 42 females, were injected. These cases were not selected but taken just as they offered themselves, and included both mild and severe cases. The quantity given was 1 c.c. of B_1 weekly for three months, gradually passing to the strength known as B_2. After the first three months, two months without treatment was allowed to elapse, then a further treatment of two months and so on. This treatment was continued on the exact lines laid down by Deycke in September, 1910, when it had been in use for twenty-one months on 135 patients. In a report on those cases by the Government bacteriologist it is stated that "under this treatment some cases become undoubtedly worse, the great majority remained in *statu quo ante*, while a few improved to such a degree that in three cases the results approximated to recovery."

From March, 1910, to September, 1911, 70 patients in the Mahaica Leper Asylum were placed on a treatment of injections of benzoyl chloride in mineral oil, viz. a treatment similar in every respect to the nastin process, with the nastin eliminated. According to Minett, the results as a whole are rather better than with the nastin.

This interesting paper emphasises the fact that a cure for leprosy has not yet been discovered. J. M. H. M.

REVIEWS.

A Text-book of Skin-Diseases.*

It is only three years since we reviewed the fourth edition of this excellent manual, and again we have the pleasure of congratulating the author on the success of his popular and practical text-book. The volume has again undergone some revision, and a further enlargement to the extent of some seventy pages has been found unavoidable. The section on ringworm and other fungus diseases has been rewritten in the light of recent research, and some admirable new plates have been introduced, showing both clinical and pathological appearances of the various ringworm fungi. A new chapter on affections of the mucous membranes of

* *Diseases of the Skin.* By Sir Malcolm Morris, K.C.V.O. Revised by the author with the assistance of Dr. S. E. Dore. Cassell & Co., 1911. Pp. 762. Price 10*s.* 6*d.*

lips, tongue and mouth has been added, and many of the newer methods of treatment are discussed and described in detail. The chapters on syphilis include some new matter. There are very clear plates showing the *Spirochæta pallida*, as seen by dark-ground illumination and by the Indian ink method of staining, the claims of salvarsan and hectine are discussed, and there is a good description of the Wassermann reaction, with its capabilities and limitations. In passing we note that the author, like some other eminent syphilographers, holds that if the primary sore is in a suitable place, it should be excised at once. In conclusion, we need only add that the plates are very good and the whole volume admirably suited both to the student and the practitioner. J. L. B.

Contribuiçao ao Estudo da Bouba.*

This is quite an excellent monograph on Frambœsia tropica, and the author not only deals with the disease as found in Brazil, but also in Africa, Asia, and America. The comparative frequency of this disease in Brazil is discussed, and also that of syphilis both in Brazil and in various tropical countries, and the relationship between the two affections. Although in the acute stage of frambœsia the Wassermann reaction is positive, the author nevertheless maintains that the disease is absolutely specific and entirely different from syphilis, and states that it is caused by the *Treponema pertenue*. The result of inoculations on monkeys is dealt with in some detail and the effects of salvarsan injections in clinical and experimental frambœsia are given. It appears that the varieties of Frambœsia found in Brazil are not peculiar to the country, but the type most frequently met with there is not particularly virulent and usually reacts well to treatment. Some excellent illustrations are given, and the histological appearances are discussed at length, and compared with those already described by English and other pathologists and dermatologists. The volume is well worth studying, if only for the dedication, which might serve as an admirable model for some Europeon writers. J. L. B.

Merck's Annual Report.†

We have received a copy of this annual report, which contains a record of the advancement of pharmaceutical chemistry during the past twelve months. There is much useful information on progressive therapeutics which will be of service to dermatologists.

* *Contribuiçao ao Estudo da Bouba.* By Dr. O. da Silva Araujo. Rio de Janeiro: Rodriques & Co., 1911.

† *Merck's Annual Report*, vol. xxiv, pp. 380.

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